



AMEGA

MANUFACTURERS OF MOTION PICTURE SOUND DEVICES





AMEGA

11817 WICKS STREET / SUN VALLEY, CALIFORNIA

Cable Address: AMEGAMAG North Hollywood, California

AN AFFILIATE OF OMEGA ENGINEERING COMPANY





**AMEGA corporation**

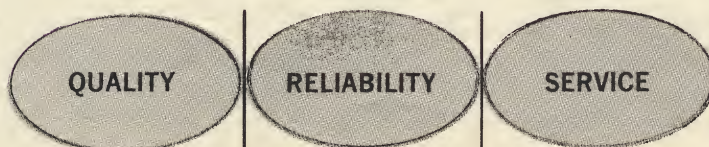
Proudly presents its  
1964 line of motion picture  
sound equipment.

THE AFFILIATION WITH **Omega ENGINEERING**  
HAS GIVEN EVERY ITEM IN THE LINE OUTSTANDING DESIGN AND  
ENGINEERING CONCEPT. FOR 18 YEARS **OMEGA** HAS SERVED  
INDUSTRY WITH EQUIPMENT AND COMPONENTS, BOTH ELECTRONIC  
AND MECHANICAL. IT HAS KEPT PACE WITH "SPACE AGE" TECH-  
NOLOGY UTILIZING LATEST TECHNIQUES AND MATERIALS.

**Amega** RECORDERS AND DUBBERS HAVE BEEN "TOOLED"  
FOR MANUFACTURE RESULTING IN BETTER PERFORMANCE, LOWER  
MAINTENANCE, INTERCHANGEABLE PARTS, AND BETTER VALUE.  
THE MODULAR CONCEPT IS USED THROUGHOUT THE ENTIRE SOUND  
SYSTEM FOR FLEXIBILITY.

THE **Amega** WARRANTY EXTENDS TO THE DEALER  
AND THE CUSTOMER, WITH AIR MAIL PARTS SERVICE TO FREE  
COUNTRIES ALL OVER THE WORLD.

MADE IN U. S. A.





## NEW FEATURES INCORPORATED IN ALL AMEGA RECORDERS, DUBBERS AND MIXERS

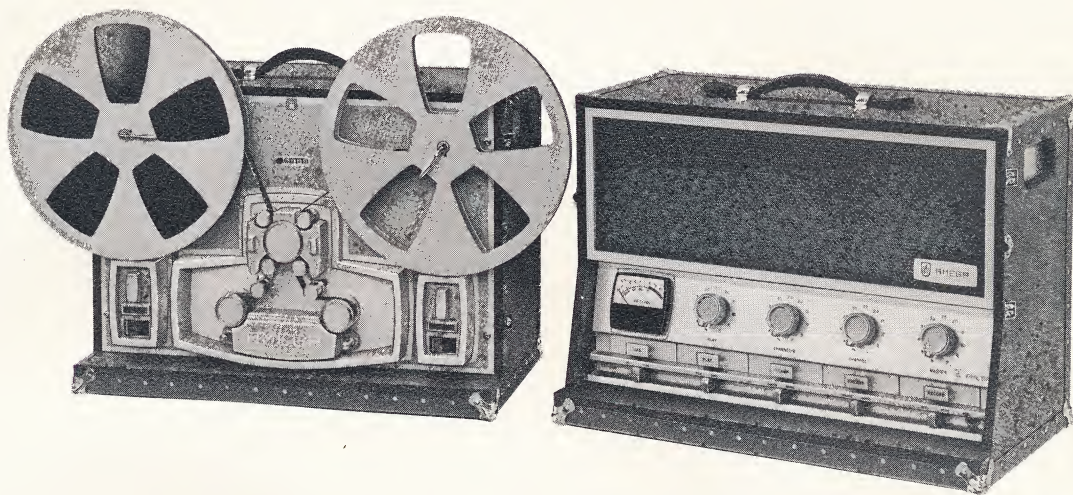
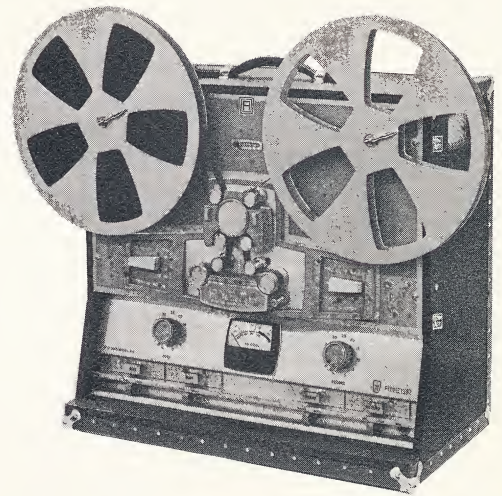
1. INTERCHANGEABLE PLUG-IN AMPLIFIER MODULES.
2. "SPACE AGE" ENCAPSULATION PREVENTS DAMAGE AND ASSURES RELIABILITY.
3. ENVIRONMENTAL TESTS TO MEET SPECIFICATIONS ON ALL UNITS.
4. DEVELOPED TO MEET STANDARDS FOR U.S. AGENCIES' MOTION PICTURE UNITS OPERATING THROUGHOUT THE WORLD.
5. TWO STAGES OF DIALOGUE EQUALIZATION.
6. TWO MICROPHONE INPUTS ON M-2 RECORDER.
7. PLUG-IN INTERCHANGEABLE HEAD ASSEMBLIES.
8. PRECISION CAST HEAD ASSEMBLY ENCLOSURE EASILY REMOVABLE FOR CLEANING AND MARKING.
9. NEW BALL BEARING DAMPENING SYSTEM ASSURES THAT FLUTTER AND WOW WILL BE HELD TO SPECIFICATIONS UNDER ALL OPERATING CONDITIONS.
10. TWO BALL BEARING GENUINE TORQUE MOTORS ON ALL RECORDERS AND DUBBERS.
11. ELECTRICAL TORQUE DIFFERENTIAL FOR TIGHT WIND IN EITHER DIRECTION.
12. NEW STRIPPER FOR SPROCKET ENABLES OPERATOR TO RUN SHORT LOOPS WITHOUT DAMAGE TO FILM OR EQUIPMENT.
13. SPROCKET PADS ENCOMPASS FOUR TEETH ON EACH SIDE TO ELIMINATE DAMAGE TO FILM WHEN STARTING OR STOPPING MECHANISM.
14. REMOTE MOTOR CONTROL OUTPUT PLUG ON ALL RECORDERS AND DUBBERS.
15. SYNC SELSYN OR DISTRIBUTOR CONTROLS CAN BE PLUGGED IN WITH PREFABRICATED INTERCONNECTING CABLES. NO COMPLICATED WIRING IS REQUIRED.
16. NEW ACCURACY FOR FILM THREADING. WHEN SPROCKET PADS ARE OPEN, DAMPENING ARMS ARE LOCKED FOR PRECISE THREADING. PROPER TENSION IS APPLIED WHEN PADS ARE CLOSED.
17. 20 TOOTH SPROCKET IS DESIGNED TO ELIMINATE FILM STRIPPING NOISE.
18. FOUR DIGIT PUSH BUTTON FOOTAGE COUNTER IS SPROCKET DRIVEN FOR ACCURACY.
19. INSTRUMENTATION TYPE SPLIT APART REELS. TWO REELS ARE FURNISHED WITH ALL AMEGA RECORDERS AND DUBBERS.
20. ALL AMEGA PARTS ARE MADE FROM PRECISION DIES AND TOOLING TO ASSURE INTERCHANGEABILITY.
21. SPARE PARTS SHIPPED THE SAME DAY ORDERS ARE RECEIVED.



## The AMEGA line of professional MOTION PICTURE recorders

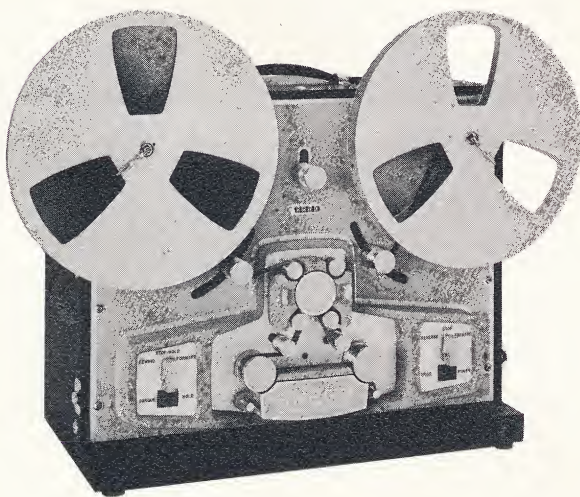
### AMEGA STANDARD

A survey was made to determine the fundamental requirements for a 16mm magnetic film recorder. The A-1 and A-2 models embody all the basic elements plus eighteen "up to date" additional new features.



### AMEGA HEAVY DUTY

The M-2 portable and rack mount models have two input channels and master gain control. The "heavy duty" feature upgrades existing standards for equipment in this price class with the addition of nineteen new and outstanding features.



### AMEGA MASTER

The MM-1 MASTER recording system is the ultimate for present day technology. The system embodies all features found in the A-1 and M-2 models plus shock arms, end of reel shut off, differential breaks for either direction, high torque fast forward and rewind with automatic shut-off, filter arm ground spring adjustment, 2000 foot reel capacity and illuminated push button controls. The amplifier is professional high fidelity using the latest low noise transistor circuitry.

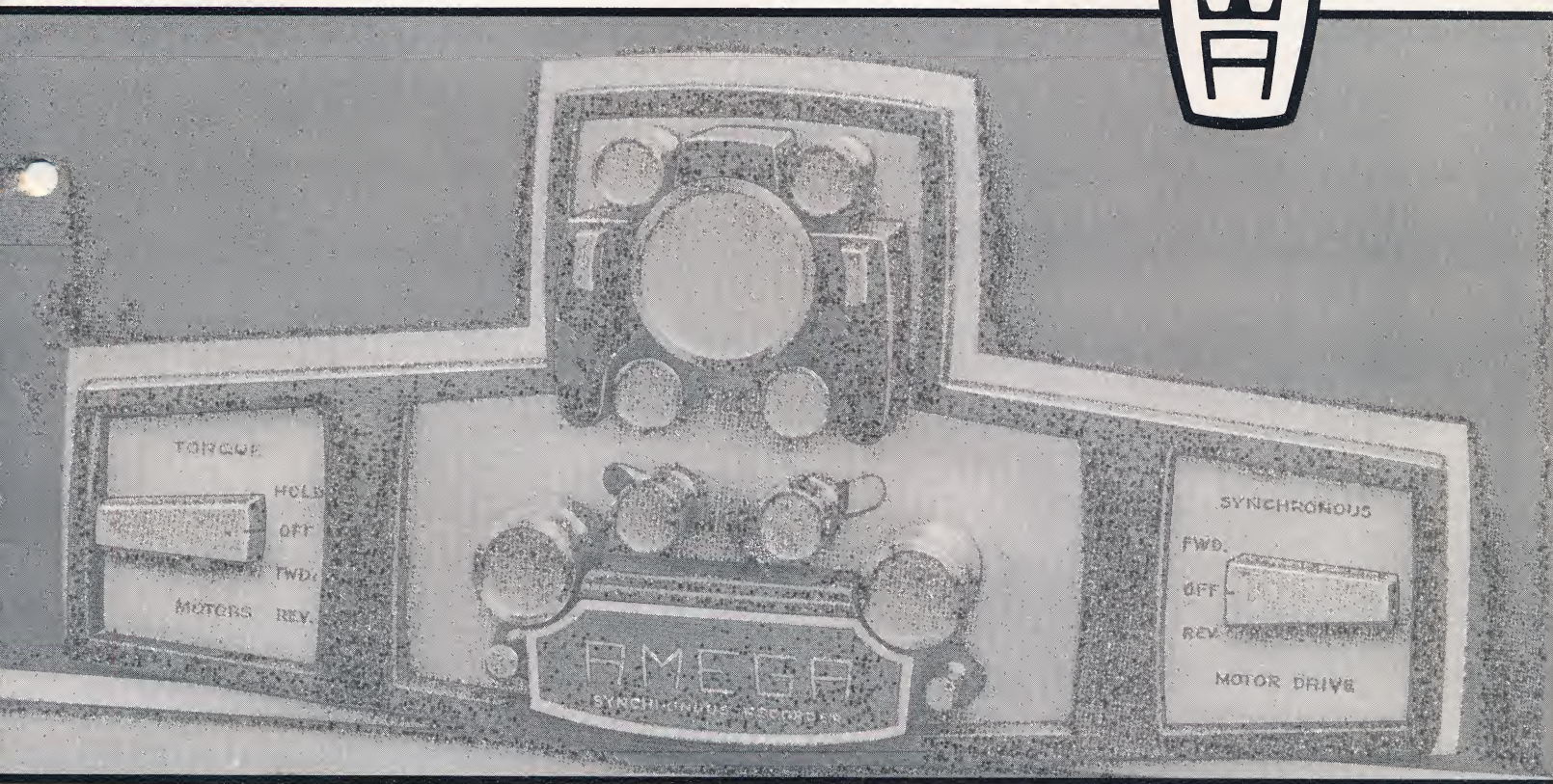
SEE YOUR DEALER FOR DEMONSTRATIONS AND SYSTEMS PLANNING



# AMEGA A-1

"standard"

synchronous magnetic film  
sound recording system



- Portable sound recorders
- Re-recording dummies for interlock with recorder and projector



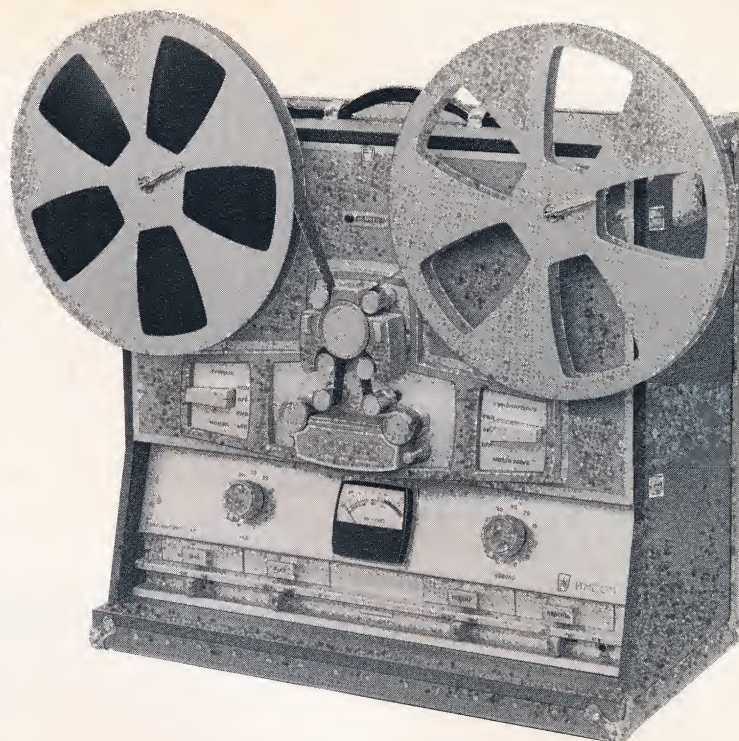
# AMEGA A-1

A complete record/play system self-contained in one portable carrying case. Unit has microphone input, film direct monitor through head phones.

Plug in modules include bias oscillator amplifier, record amplifier, microphone preamplifier and play-back preamplifier with gain control.

Two torque motors with electric differential for take up and hold back. Unit rewinds film tightly in either direction.

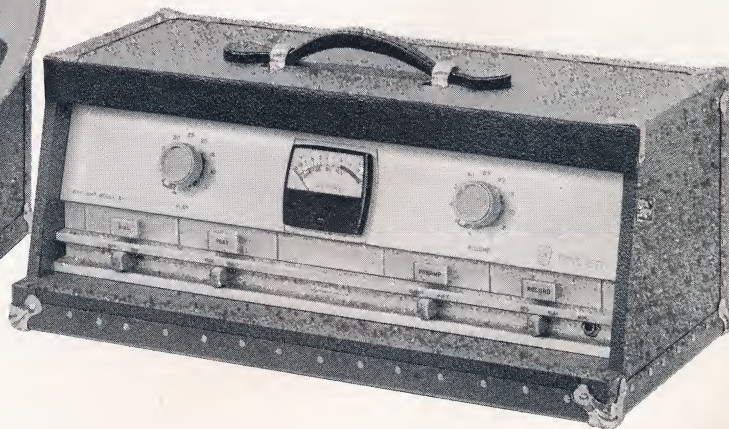
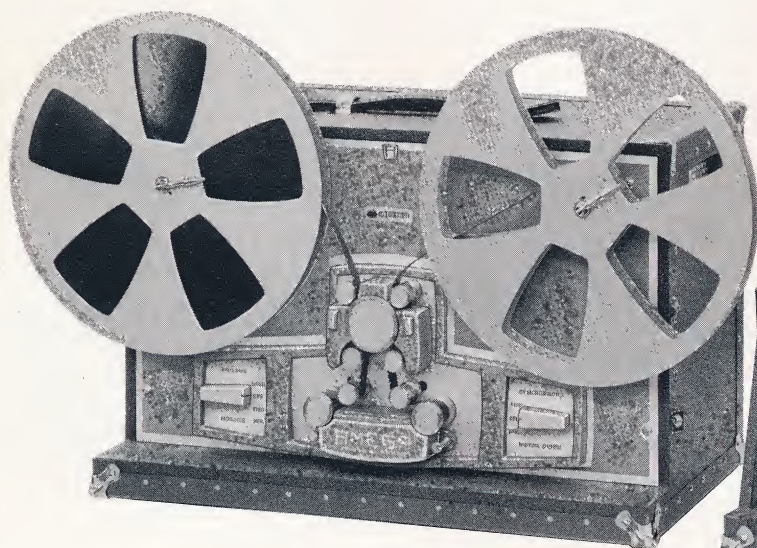
Mechanical unit panel,  $10\frac{3}{4}$ " x 19".  
Amplifier panel,  $5\frac{1}{4}$ " x 19".



New "space age" design reflects itself throughout the entire A-1 and A-2 standard sound systems. Instrumentation type reels are 1200' capacity and are supplied with each recording system. Reels are split-apart type for ease in loading and unloading. Units are available for 50 or 60 cycles, 110 or 220 volts single-phase, and 220 volts three-phase.

# AMEGA A-2

Model A-2 is identical to Model A-1 both electrically and mechanically.



Model A-2 has standard mechanism with record/play amplifier in separate case. Two-case model has utility for both studio and portable use.



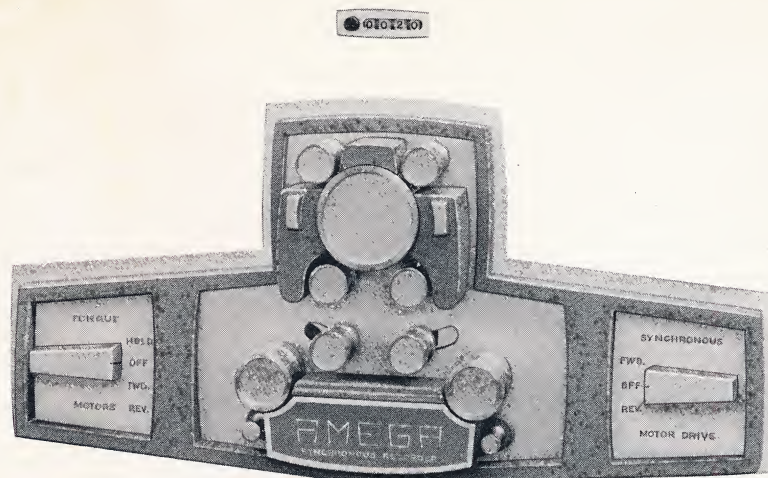
## TRANSPORT CONTROLS

4-digit footage counter is chain interlocked with synchronous drive motor.

Head cover is removable for ease in cleaning heads and marking film for editing. Drive mechanism features ball bearing dampening system, noiseless 20-tooth sprocket ball bearing rollers and sprocket film pads which engage 4 teeth on both sides of sprocket.

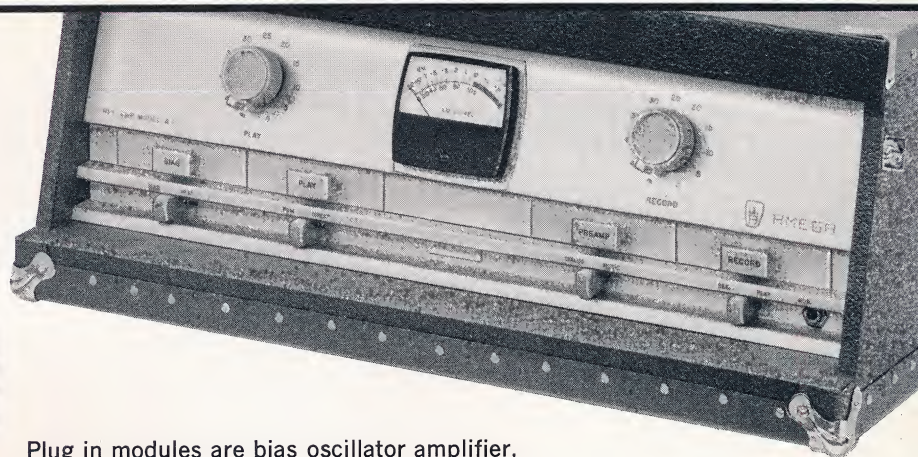
Torque motors controlled for holding position during standby, fast forward and fast rewind.

Synchronous motor control for forward and reverse switching.



## AMPLIFIER

Microphone input channel has dialogue-music equalization. Switch is located on the front panel.



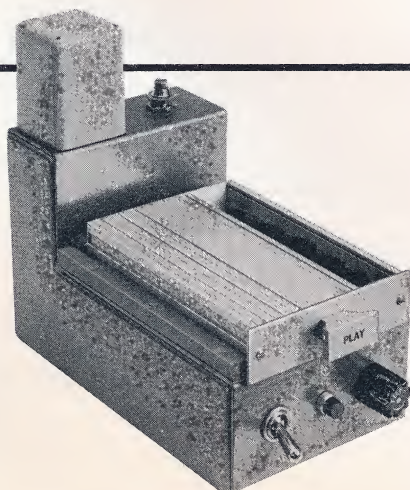
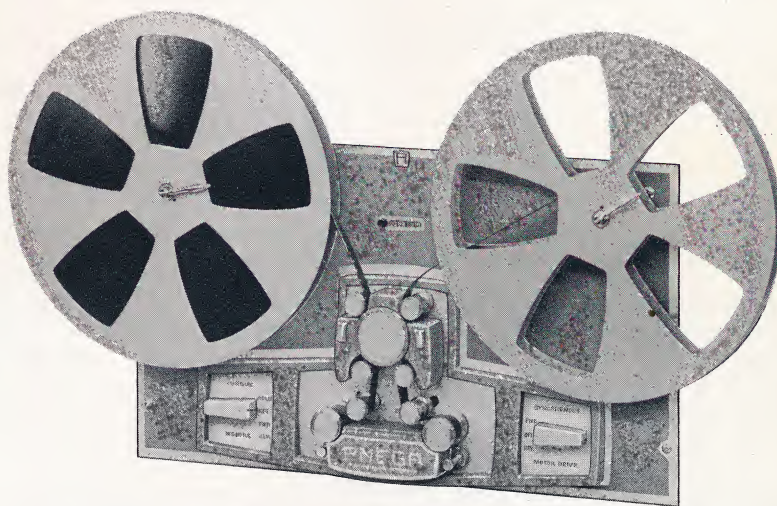
Plug in modules are bias oscillator amplifier, record amplifier, microphone preamplifier and playback preamplifier with gain control.

## DUBBERS

The Model A-1-1 Dubber system was especially designed for studios where space is at a premium. The space saving design features high quality with specifications to industry standards.

Dubber has mechanical interlock when two or three units are used for music, dialogue and sound effects. Interlock motor can be attached to system for locking projector and recorder. Interlock components are available for both portable and rack mount units.

Model A-1 single channel dubber re-recorder has identical features to Model A-1 recording system.



## PREAMPLIFIER

Self-contained play-back preamplifier features modular construction and is interchangeable with recorder preamplifier.

Preamplifier output is 600 ohms 0 level with power supply and output transformer.

Microphone input channel has dialogue-music equalization.



# · AMEGA A-1 SPECIFICATIONS

**Film Type:** 16mm

**Track:** Edge or center

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 110 volts, 50-cycle.  
220 volts, single-phase, 50 or 60-cycle  
220 volts, three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 8500 cps,  $\pm 2$  db.

**Distortion:** Less than 1.5% total harmonic from film.

**Signal-to-Noise Ratio:** Better than 50 db.

**Flutter and Wow:** 0.15% maximum RMS overall.

**Inputs:** One microphone, 50 or 250 ohms.  
One bridge input, 600 ohms.

**Output:** 600 ohms, 0 level.

**Monitor:** Film-direct switching for headphones.

## WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone preamplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.



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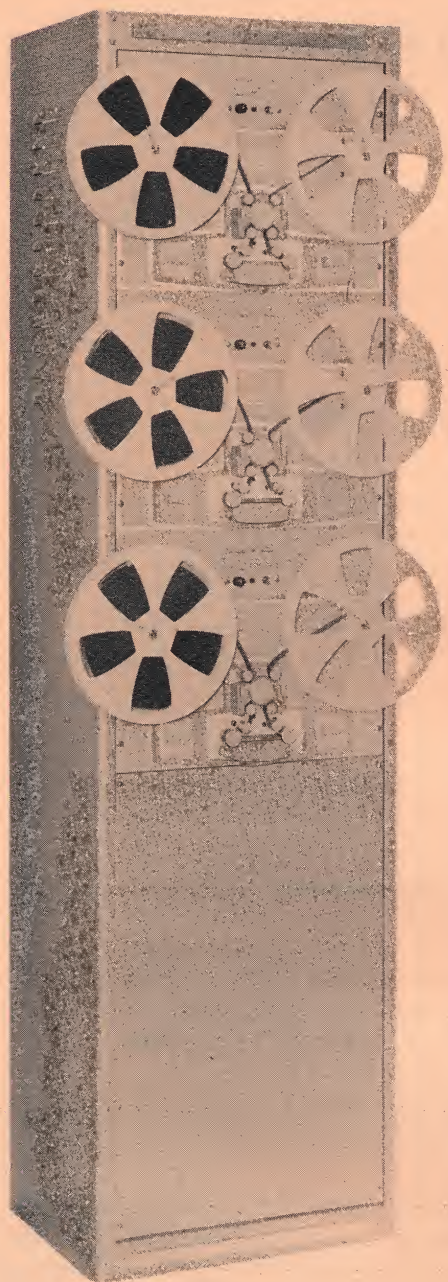
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Manufacturers of Motion Picture Sound Devices



# AMEGA A-1

## "standard" Re-recording dummies for interlock with recorder and projector



MODEL A-1-3 THREE POSITION DUBBER  
MECHANICALLY INTERLOCKED  
MODEL A-1-3-S ELECTRICALLY INTERLOCKED

The Model A-1-1 Dubber system was especially designed for studios where space is at a premium. The space saving design features high quality with specifications to industry standards.

Dubber has mechanical interlock when two or three units are used for music, dialogue and sound effects. Interlock motors can be attached to system for locking projector and recorder. Interlock components are available for both portable and rack mount units.

Model A-1 single channel dubber re-recorder has identical features to Model A-1 recording system.

### TRANSPORT

4-digit footage counter is chain interlocked with synchronous drive motor.

Head cover is removable for ease in cleaning heads and marking film for editing. Drive mechanism features ball bearing dampening system, noiseless 20-tooth sprocket ball bearing rollers and sprocket film pads which engage 4 teeth on both sides of sprocket.

Torque motors controlled for holding position during standby, fast forward and fast rewind.

Synchronous motor control for forward and reverse switching.

Two torque motors with electric differential for take up and hold back. Unit rewinds film tightly in either direction.

Plug-in head assemblies are interchangeable from one unit to the other. Housing is removable for maintenance cleaning of heads and for film marking during editing.

### PREAMPLIFIER

Self-contained play-back preamplifier features modular construction and is interchangeable with recorder preamplifier.

Preamplifier output is 600 ohms 0 level with power supply and output transformer.





# A-1

## DUBBER

### SPECIFICATIONS

**Film Type:** 16mm

**Track:** Edge or center

**Drive:** Salient pole synchronous motor.

Standard unit 110 volts, 60-cycle, single-phase.

Available at no extra cost: 110 volts, 50-cycle.

220 volts, single-phase, 50 or 60-cycle

220 volts, three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 8500 cps,  $\pm 2$  db.

**Distortion:** Less than 1.5% total harmonic from film.

**Signal-to-Noise Ratio:** Better than 50 db.

**Flutter and Wow:** 0.15% maximum RMS overall.

**Output:** 600 ohms, 0 level.

New "space age" design reflects itself throughout the entire A-1 and A-2 standard sound systems. Instrumentation type reels are 1200' capacity and are supplied with each recording system. Reels are split-apart type for ease in loading and unloading. Units are available for 50 or 60 cycles, 110 or 220 volts single-phase, and 220 volts three-phase.

#### WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone preamplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.



## AMEGA

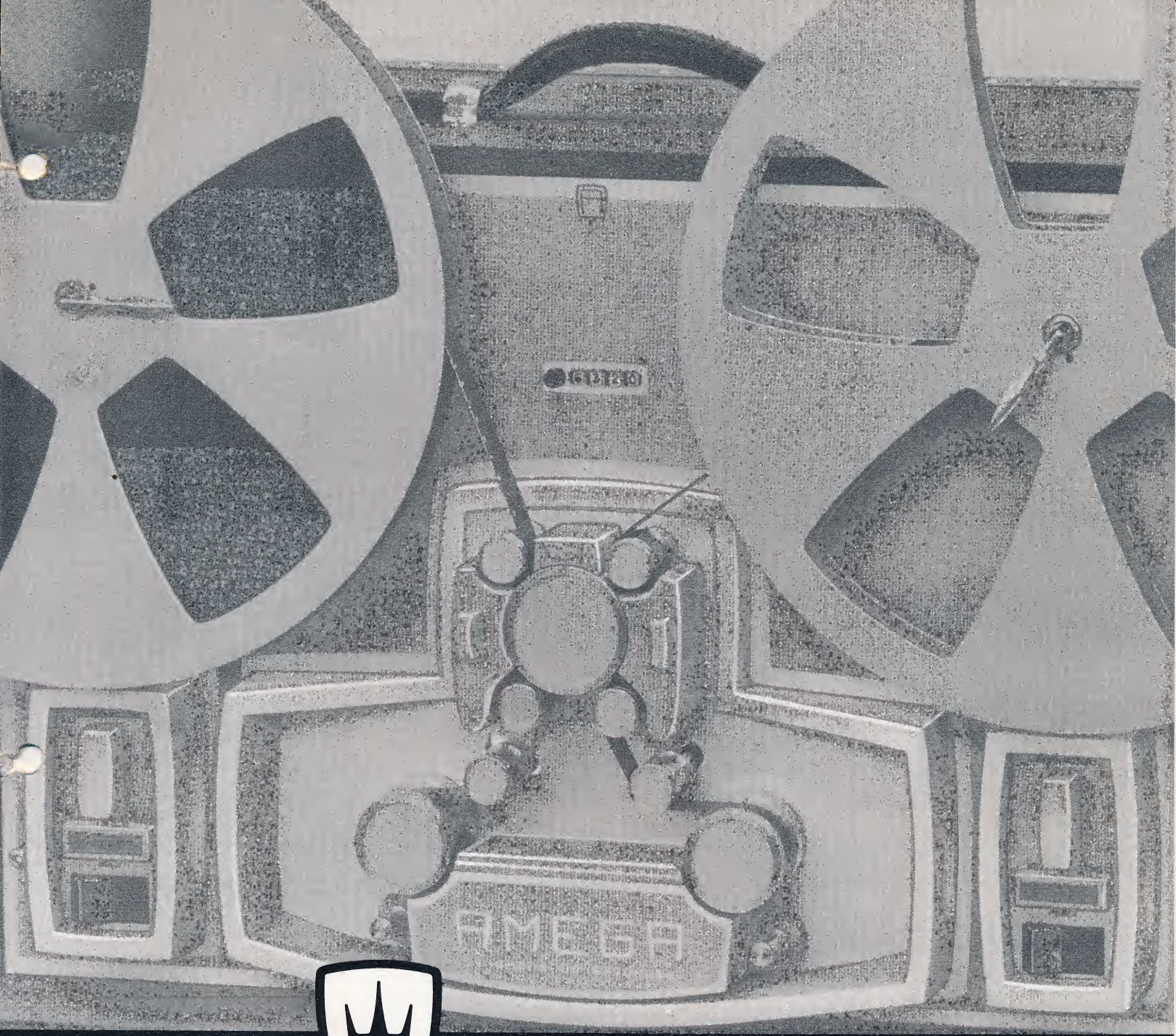
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AMEGA M-Z

"heavy duty"

synchronous magnetic film  
**sound recording system**



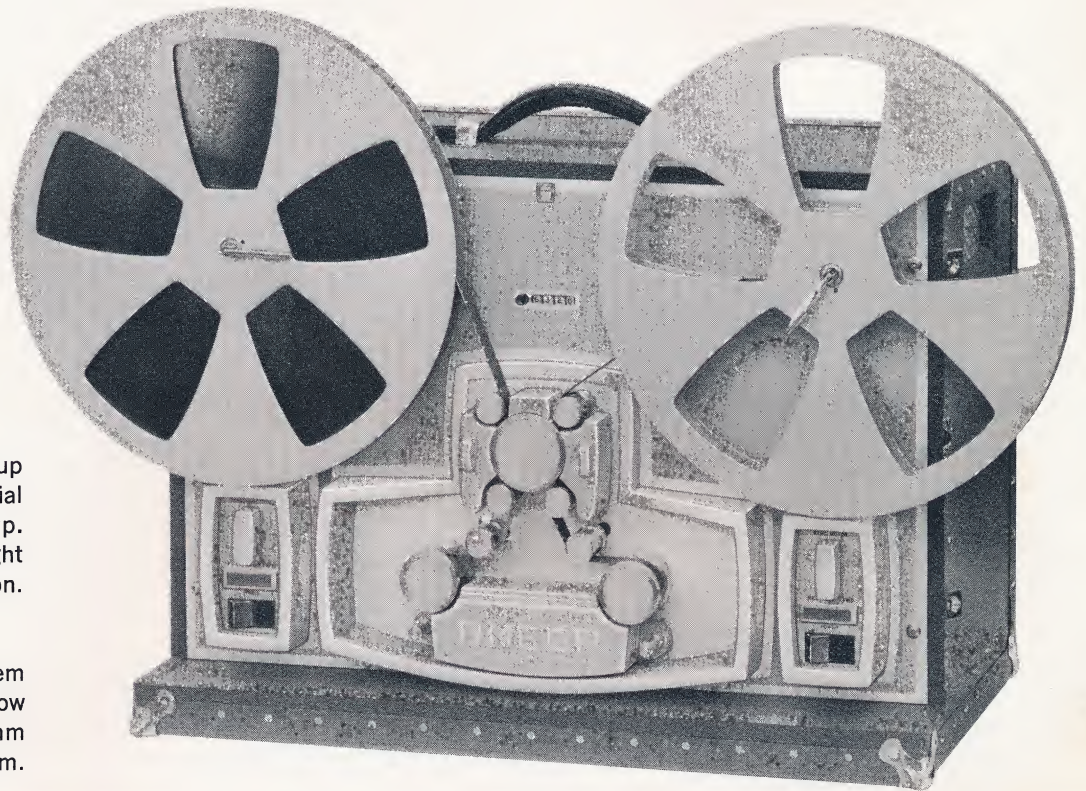
# AMEGA M-Z TRANSPORT

... designed to include all the latest features and technology now employed in the "space age" industry. A complete recording system for portable or studio use.

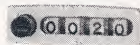
Instrumentation type split-apart reels are for ease in loading film. Two 1200' capacity reels are furnished with M-2 Recorder.

Two torque motors for take-up and rewind have electrical differential in torque for hold-back and take-up. Film is wound tight in either direction.

New ball bearing dampening system holds flutter and wow to less than .15% for 16mm and 0.1% for 35mm.



4-digit footage counter has push button reset.

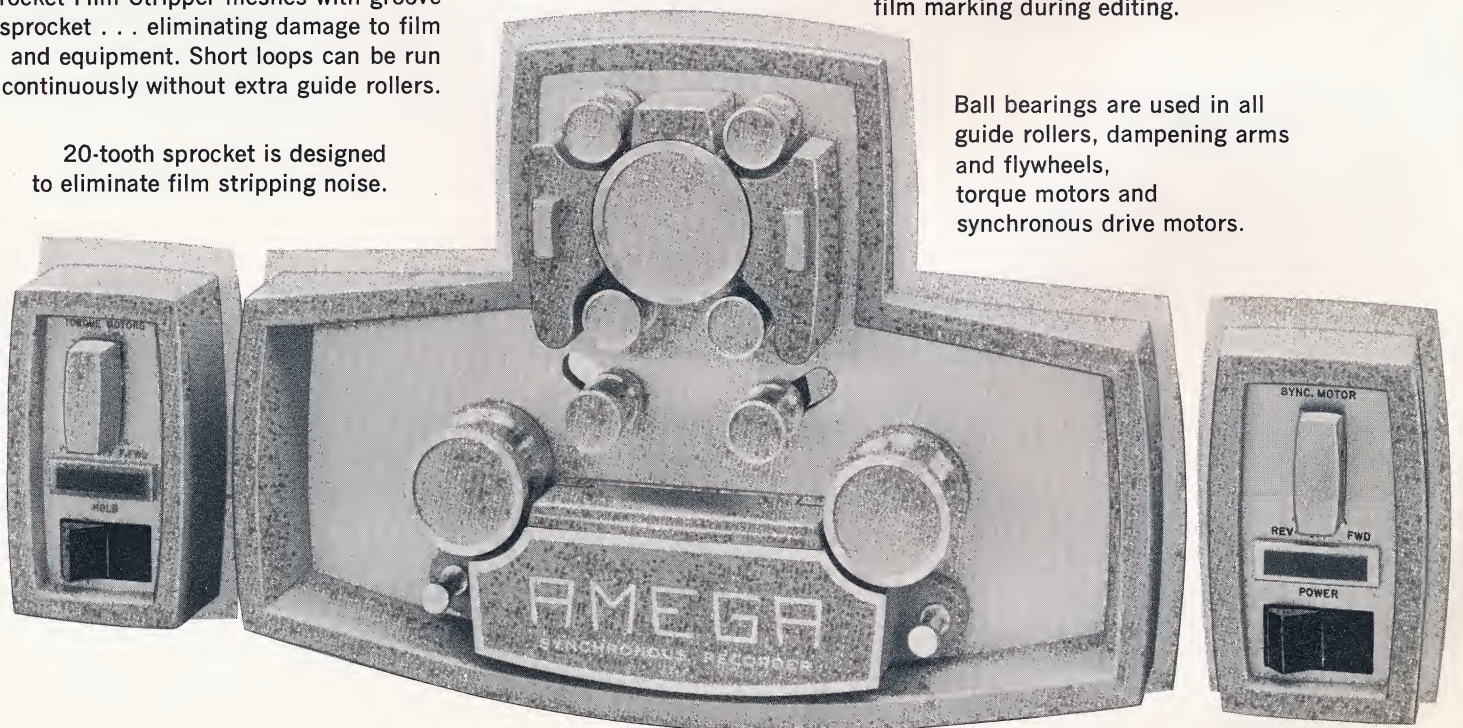


Sprocket Film Stripper meshes with groove in sprocket ... eliminating damage to film and equipment. Short loops can be run continuously without extra guide rollers.

20-tooth sprocket is designed to eliminate film stripping noise.

Plug-in head assemblies are interchangeable from one unit to the other. Housing is removable for maintenance cleaning of heads and for film marking during editing.

Ball bearings are used in all guide rollers, dampening arms and flywheels, torque motors and synchronous drive motors.

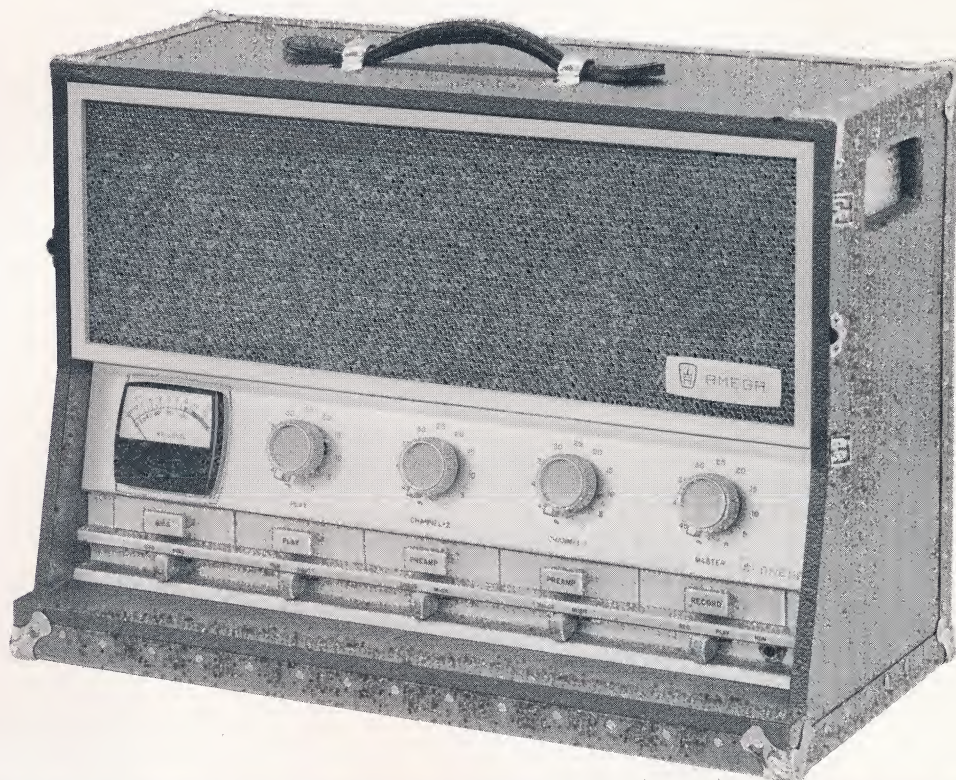




# AMEGA M-Z AMPLIFIER MIXER

... has two microphone input channels with master gain control. Solid state transistorized amplifiers, bridging inputs for high level signals, output 600 ohms, 0 level. Head phones for monitoring direct or film signals. Transistorized power amplifier for speaker monitor and output.

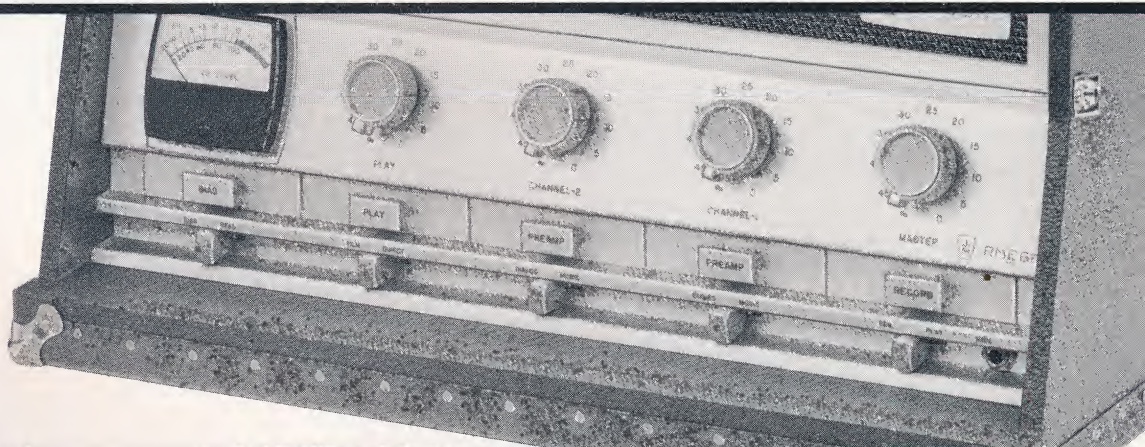
Amplifier panel has upper recess illumination with lamps for meter and other controls.



V-U meter reads Bias for Record Oscillator.

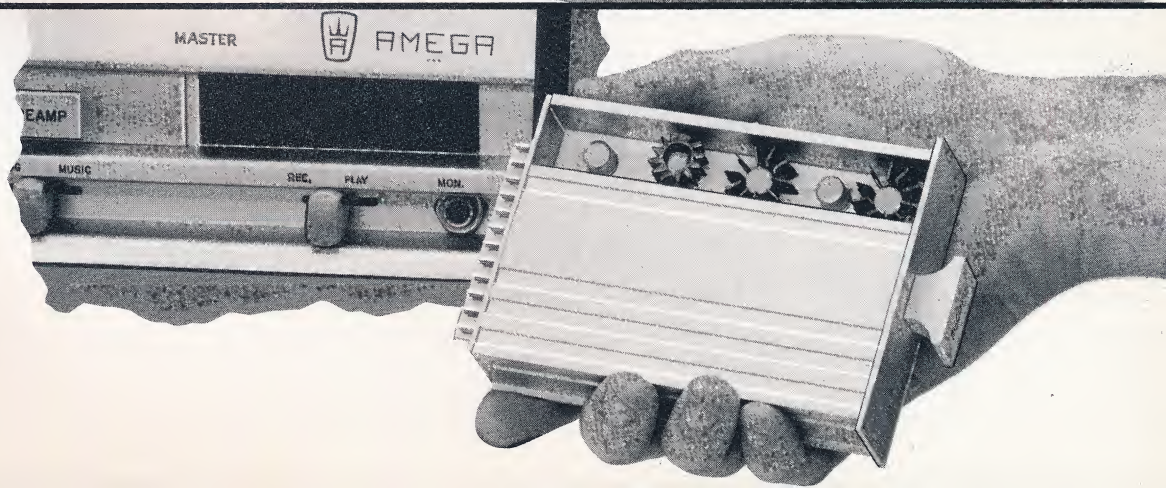
Amplifier bias oscillator, Record amplifier, Play-back pre-amplifier and Microphone pre-amplifiers plug in the front panel.

Dialogue equalization for each input channel.



All plug in modules for recorder, mixers and re-recorders are interchangeable.

Plug-in amplifiers have special aluminum enclosure; transistors are exposed for ventilation. Circuit board is in groove and can be removed if necessary.





# AMEGA M-Z SPECIFICATIONS

**Film type:** 16mm, 17½mm and 35mm.

**Tracking:** Edge or center track for 16mm.  
Standard tracking for 17½mm and 35mm.  
Other tracking and heads available.

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 50-cycle, single-phase.  
220 volts, single-phase, 50 or 60-cycle.  
220 volts three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential for tight wind in either direction.

**Frequency Response:** 45 cps to 10000 cps,  $\pm 2$  db.

**Distortion:** Less than 1.5% total harmonic from film.

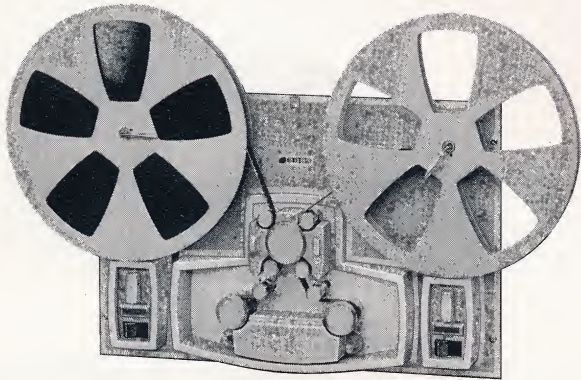
**Signal-to-Noise Ratio:** Better than 50 db.

**Flutter-to-Wow:** 0.15% maximum RMS overall.  
0.1% maximum RMS overall for 35mm.

**Inputs:** Two microphones, 50 or 250 ohms.  
Two bridge inputs, 600 ohms.

**Output:** 600 ohms, 0 level. Speaker output, 2 watts.

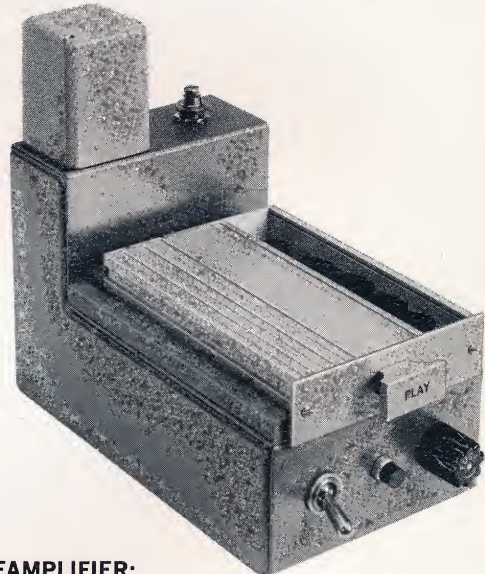
**Monitor:** Film-direct switching for headphones.



## DUBBER:

M-2-1 Dubber has all the features of M-2 Recorder with provisions for mounting interlock motor or mechanical interlock when two or more dubbers are required.

Output: 600 ohms, 0 level. Available in 16mm, 17½mm, and 35mm. Mechanical unit, 12¼" x 19".



## PREAMPLIFIER:

Modular plug-in Play preamplifier assembly is self-contained with power supply and output transformer. 7" x 19" panel also mounts interlock motor.

## WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone preamplifier will be replaced as complete boards by your dealer or the factory.

Defective mechanical and electronics components will be replaced on exchange basis. Replacement parts will be shipped air mail without charge to the customer to any part of the world. Record and play heads are guaranteed except for normal wear. No claims under the guarantee will be entertained if parts have been misused or abused.



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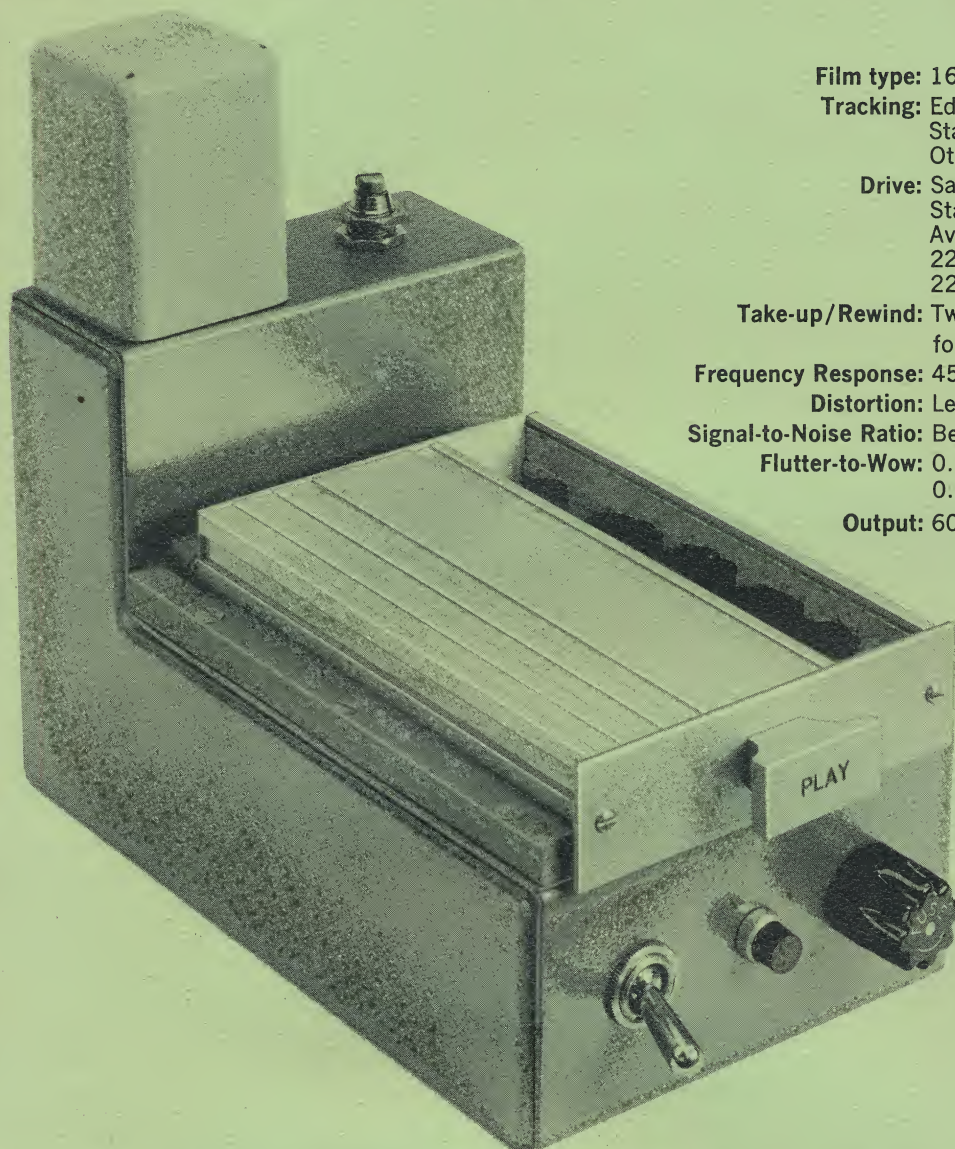
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# M-Z DUBBER

## SPECIFICATIONS



**Film type:** 16mm, 17½mm and 35mm.

**Tracking:** Edge or center track for 16mm.  
Standard tracking for 17½mm and 35mm.  
Other tracking and heads available.

**Drive:** Salient pole synchronous motor.  
Standard unit 110 volts, 60-cycle, single-phase.  
Available at no extra cost: 50-cycle, single-phase.  
220 volts, single-phase, 50 or 60-cycle.  
220 volts three-phase, 50 or 60-cycle.

**Take-up/Rewind:** Two torque motors with electrical differential  
for tight wind in either direction.

**Frequency Response:** 45 cps to 10000 cps,  $\pm 2$  db.

**Distortion:** Less than 1.5% total harmonic from film.

**Signal-to-Noise Ratio:** Better than 50 db.

**Flutter-to-Wow:** 0.15% maximum RMS overall.

0.1% maximum RMS overall for 35mm.

**Output:** 600 ohms, 0 level.

All plug in modules  
for recorder, mixers  
and re-recorders  
are interchangeable.

Plug-in amplifiers have special  
aluminum enclosure;  
transistors are exposed  
for ventilation. Circuit board  
is in groove and can  
be removed if necessary.

### WARRANTY:

All Amega components are tested before and after assembly. The complete recorder is tested to meet industry standards. All parts have a one year guarantee. Defective transistor boards for bias oscillator, record amplifier, play amplifier and microphone preamplifier will be replaced as complete boards by your dealer or the factory.

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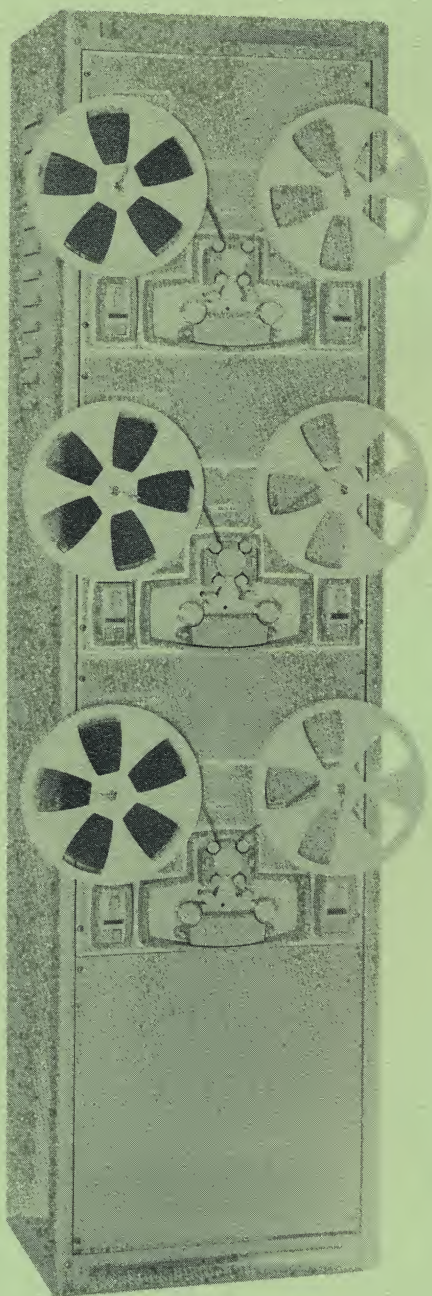




## AMEGA M-2

"heavy duty" • Re-recording dummies for interlock  
with recorder and projector

... designed to include all the latest features and technology now employed in the "space age" industry.



Instrumentation type  
split-apart reels are for  
ease in loading film.  
1200' capacity reels are  
furnished with M-2 Dubber

Two torque motors for take-up  
and rewind have electrical differential  
in torque for hold-back and take-up.  
Film is wound tight  
in either direction.

New ball bearing dampening system  
holds flutter and wow  
to less than .15% for 16mm  
and 0.1% for 35mm.

4-digit footage counter has push button reset.  
Sprocket Film Stripper meshes with groove  
in sprocket ... eliminating damage to film  
and equipment. Short loops can be run  
continuously without extra guide rollers.

20-tooth sprocket is designed  
to eliminate film stripping noise.

Plug-in head assemblies are interchangeable from  
one unit to the other. Housing is removable  
for maintenance cleaning of heads and for  
film marking during editing.

MODEL M-2-3 THREE POSITION DUBBER  
MECHANICALLY INTERLOCKED  
MODEL M-2-3-S ELECTRICALLY INTERLOCKED

### PREAMPLIFIER:

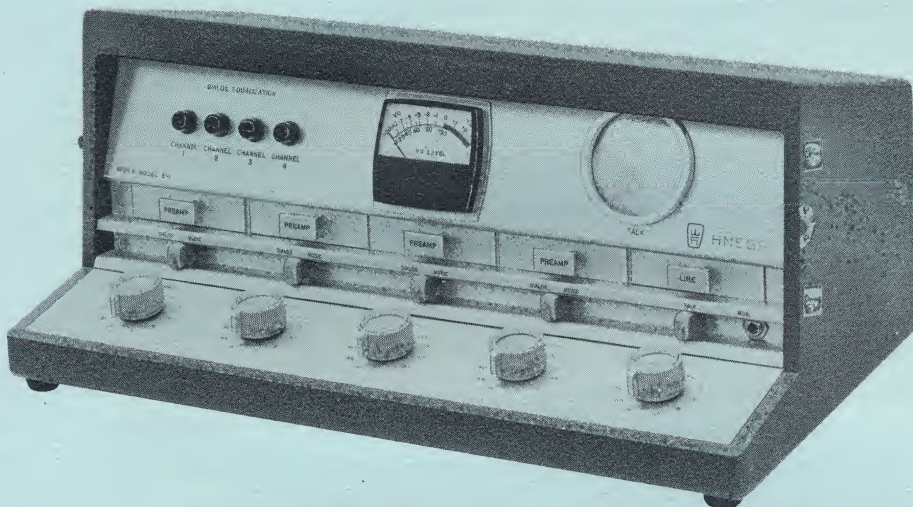
Modular plug-in Play preamplifier assembly is self-  
contained with power supply and output transform-  
er. 7" x 19" panel also mounts interlock motor.



# AMEGA E-1 MIXER



A NEW MIXER FOR PORTABLE OR STUDIO USE UTILIZING THE LATEST ENGINEERING ADVANCES. DESIGNED WITH "CONTINUED PERFORMANCE" FEATURES FOR MOTION PICTURE RECORDING AND DUBBING.



MICROPHONES, DUBBERS, TAPE RECORDERS, DISK PLAYBACK, ETC. CAN ALL BE MIXED SIMULTANEOUSLY. SEPARATE CONNECTORS FOR BRIDGE INPUTS MAY BE LEFT HOOKED UP IN STUDIO ALONG WITH MIC LINES.

ALL PLUG-IN PREAMP MODULES FOR AMEGA MIXERS ARE INTERCHANGEABLE WITH OTHER MIC AND PLAYBACK PREAMPS IN AMEGA RECORDERS OR DUBBERS.



THE PLUG-IN MODULES HAVE SPECIAL "SPACE AGE" ENCLOSURES PROTECTING ALL COMPONENTS. TRANSISTORS ARE VENTILATED AND THERMAL PROTECTED BY A SPECIAL CIRCUIT FOR UTMOST RELIABILITY AND LOW MAINTENANCE.

- FOUR MICROPHONE INPUTS
- FOUR BRIDGING INPUTS
- TWO POSITION DIALOGUE EQUALIZATION WITH INDICATOR LIGHTS IN EACH CHANNEL
- PLUG-IN TRANSISTOR AMPLIFIERS
- LOW HEAT AND POWER DRAIN
- NO MICROPHONICS
- MIC PREAMPS MAY BE SUBSTITUTED FOR LINE AMP IN EMERGENCY. NO LOSS IN QUALITY
- LEVEL SET/BLOOP OSCILLATOR
- TALK/SLATE MICROPHONE
- ACCEPTS PROFESSIONAL LOZ MICS
- QUALITY CANNON XLR CONNECTORS
- TRANSISTOR RELIABILITY
- STUDIO PERFORMANCE AND CONVENIENCE
- ONE YEAR PARTS WARRANTY



# SPECIFICATIONS

**INPUTS:** FOUR MICROPHONE; STRAP FOR 50, 250 OHMS. CANNON XLR-3-31.  
FOUR BRIDGE: 10K OHMS, -Z O TO + 8DBM. CANNON XLR-3-31.

**LINE OUTPUT:** 600 OHMS, 0 VU (+ 4DBM) BALANCE. CANNON XLR-3-32.

**MONITOR:** TWO (MIXER AND BOOM) WITH VOLUME CONTROL.  
STANDARD PHONE JACKS. FOR 600 OHM OR HI Z PHONES.

**GAIN:** 100 DB ALL CHANNELS.

**DISTORTION:** LESS THAN 0.5% TOTAL HARMONIC.

**NOISE:** BETTER THAN 65 DB S/N RATIO.

**RESPONSE:** 40 TO 20,000 CPS  $\pm 1$  DB.

**EQUALIZATION:** THREE POSITION MUSIC/DIALOGUE IN EACH CHANNEL. FLAT, ROLL OFF AT 100 CPS AND 250 CPS.

**CONTROLS:** FOUR INPUT GAIN ATTENUATORS  
FOUR INPUT SELECTOR SWITCHES: MIC, HIGH LEVEL (CONDENSER)  
MIC, BRIDGE  
ONE MASTER GAIN ATTENUATOR  
OSCILLATOR TALK/SWITCH

**INDICATORS:** FOUR LAMPS NOTING DIAOGUE EQUALIZATION INSERTION.

**VU METER:** "A" SCALE, ILLUMINATED, SELF SHEILDDED.

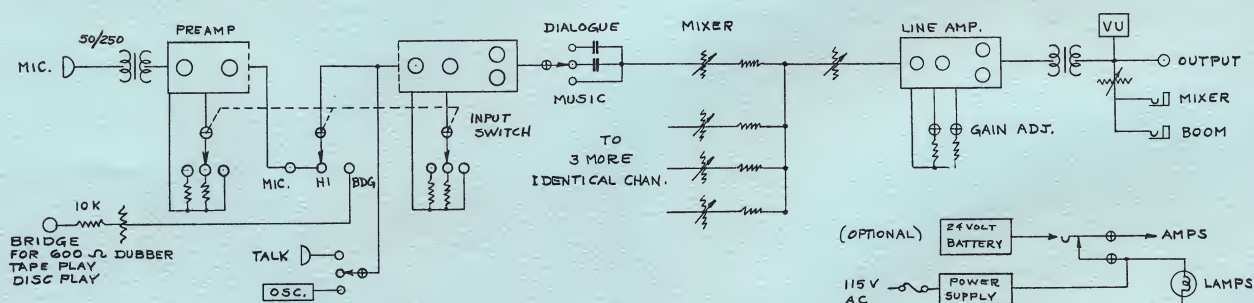
**TONE OSC:** APPROX. 1000 CPS, FEEDS THRU MASTER ATTENUATOR FOR LEVEL SET AND BLOPING. MAY BE WIRED TO CAMERA BLOOP LIGHT FOR SYNC MARK.

**AMPLIFIERS:** FOUR PUSH-PULL TRANSISTOR PREAMPS, EACH INTERCHANGEABLE WITH THE OTHER OR WITH A MIC OR PLAYBACK PREAMP FROM ANY AMEGA RECORDER. ONE PUSH-PULL LINE AMP. MAXIMUM LEVEL + 18 DBM.

**POWER:** 115 230 VOLTS, 50 60 CYCLE OR 24 VOLTS DC AT 0.15 AMPS.

**SIZE:** 19" x 7" x 9" DEEP.

## FUNCTIONAL DIAGRAM



**AMEGA**

11817 WICKS STREET/SUN VALLEY, CALIFORNIA

Cable Address: AMEGAMAG North Hollywood, California

AN AFFILIATE OF OMEGA ENGINEERING COMPANY

Manufacturers of Motion Picture Sound Devices

MADE IN U. S. A.





# AMEGA

## DISTRIBUTOR & SYNC-SELSYN INTERLOCK

SYNC SELSYN INTERLOCK IS BECOMING MORE POPULAR BECAUSE THERE IS NO DISTRIBUTOR REQUIRED AND NO COMPLEX WIRING. THE AMEGA MODEL C-6 CONTROL PANEL CAN BE USED WITH THREE DUMMIES, PROJECTOR AND RECORDERS.

EACH ELEMENT IN THE SYSTEM HAS SEPARATE CONTROLS SO THAT ANY TWO OR MORE UNITS CAN BE INTERLOCKED. ANY UNIT CAN BE REMOVED FROM THE LINE DURING INTERLOCK. FOR EXAMPLE, IF ONE OF THE DUMMIES SHOULD RUN OUT THE OPERATOR CAN SWITCH MOTORS FROM THE LINE WITHOUT DISTURBING THE OTHER UNITS IN OPERATION.

THE ONLY SIGNIFICANT DIFFERENCE BETWEEN THE SYNC SELSYN AND THE DISTRIBUTOR SYSTEM IS SLOW START. THE D-S-1 DISTRIBUTOR IN COMBINATION WITH THE D-6 DISTRIBUTOR CONTROL PANEL ENABLES THE OPERATOR TO BRING ALL UNITS "UP TO SPEED" SLOWLY AND HAVE ALL THE UNITS "COAST DOWN" SIMULTANEOUSLY.

WITH THE DISTRIBUTOR SYSTEM THE SYNC MOTORS ARE NOT USED. THE SLOW START IS NECESSARY BECAUSE THE INTERLOCK MOTORS WILL NOT START INSTANTLY SINCE THEY ARE "FOLLOWERS" TO THE DISTRIBUTOR "DRIVER". THE SYNC SELSYN SYSTEM REQUIRES THAT ALL UNITS HAVE THE SYNCHRONOUS AND SELSYN MOTORS COUPLED TOGETHER. SINCE ALL SELSYNS ARE ELECTRICALLY LOCKED THEY CONTROL THE STARTING AND RUN OF EACH SYNCHRONOUS MOTOR. ALL UNITS IN THE SYSTEM REMAIN LOCKED TOGETHER UNTIL TAKEN OFF THE LINE. SLOW START IF DESIRABLE FOR SYNC SELSYN CAN BE ACCOMPLISHED BY USE OF A ROTARY TRANSFORMER. THE 6-6 ST SLOW START CONTROL PANEL IS AVAILABLE WITH THIS FEATURE.

THE S-1 AMEGA INTERLOCK MOTOR IS DESIGNED FOR 110 VOLTS SINGLE PHASE INPUT FOR EXCITATION. THE SECONDARY VOLTAGE GENERATED BY THE MOTOR IS 110 VOLTS THREE PHASE. THE MOTOR IS APPLICABLE FOR COUPLING TO DRIVE SPEEDS OF 900, 1200, 1440, 1500 AND 1800 R.P.M.

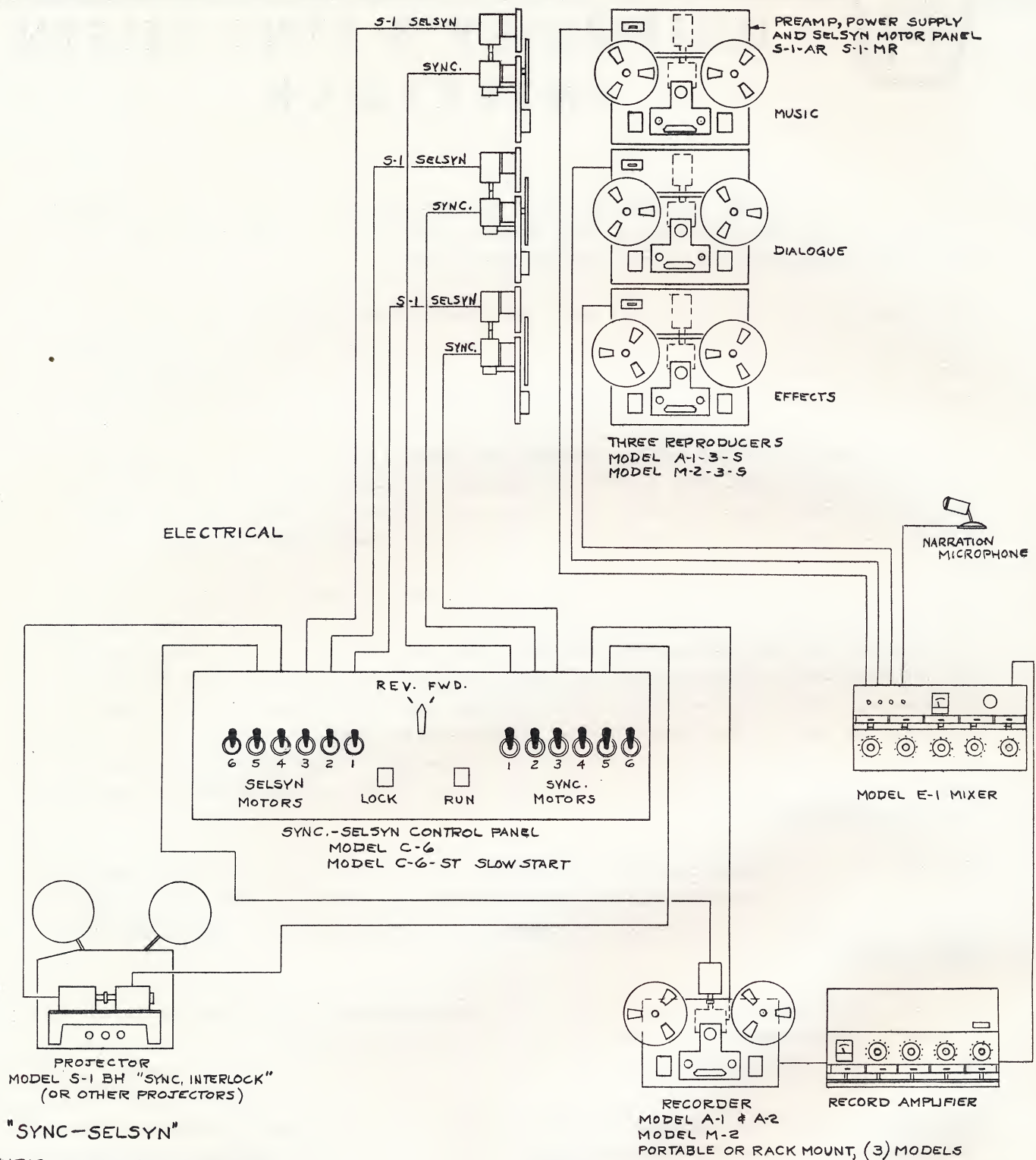
THE SUGGESTED COUPLING WHERE SPEED RATIOS ARE INVOLVED IS BY MEANS OF A SPROCKETED BELT AND PULLEY COMBINATION. WHERE DIRECT RATIOS ARE AVAILABLE A "LORD" RUBBER COUPLER IS SUGGESTED.

ALL AMEGA RECORDERS AND DUMMIES ARE EQUIPPED WITH SYNCHRONOUS MOTORS. SELSYN AND INTERLOCK ATTACHMENTS ARE AVAILABLE FOR ALL MODELS BOTH FOR RACK MOUNT AND PORTABLE UNITS. A PORTABLE RECORDER CAN DO DOUBLE DUTY WITH USE IN THE FIELD AND FOR RE-RECORDING IN THE STUDIO. THE SELSYN ATTACHMENT CAN BE REMOVED WHEN NOT IN USE.

PROJECTOR ATTACHEMENTS ARE AVAILABLE BOTH SYNC-SELSYN AND INTERLOCK. INSTALLATION HAS BEEN SIMPLIFIED SINCE EACH MOTOR IS EQUIPPED WITH PLUG READY FOR INTER-CONNECTION TO THE CONTROL PANEL. EXTENSION CABLES ARE AVAILABLE IN SECTIONS OF 10 FEET COMPLETE WITH PLUGS. NO COMPLEX WIRING IS REQUIRED.



# SYNC-SELSYN INTERLOCK SYSTEM



STUDIO LAYOUT FOR RECORDING,  
DUBBING AND RE-RECORDING.

## EQUIPMENT SHOWN —

M-2-3-5 THREE POSITION DUBBER WITH  
THREE INTERLOCK MOTOR ATTACHMENTS.  
C-6 SYNC-SELSYN CONTROL PANEL.  
M-2 RECORDER (PORTABLE OR RACK MOUNT).  
E-1 MIXER (FOR PORTABLE OR STUDIO).  
S-1 BH INTERLOCK ATTACHMENT WITH SYNC-MOTOR  
FOR PROJECTOR. CODE S-1-BH "SYNC-INTERLOCK".  
1-(ONE) COMPLETE SET OF INTERCONNECTING CABLES  
SUPPLIED BY "AMEGA" FOR ABOVE SYSTEM.

## NOTE:

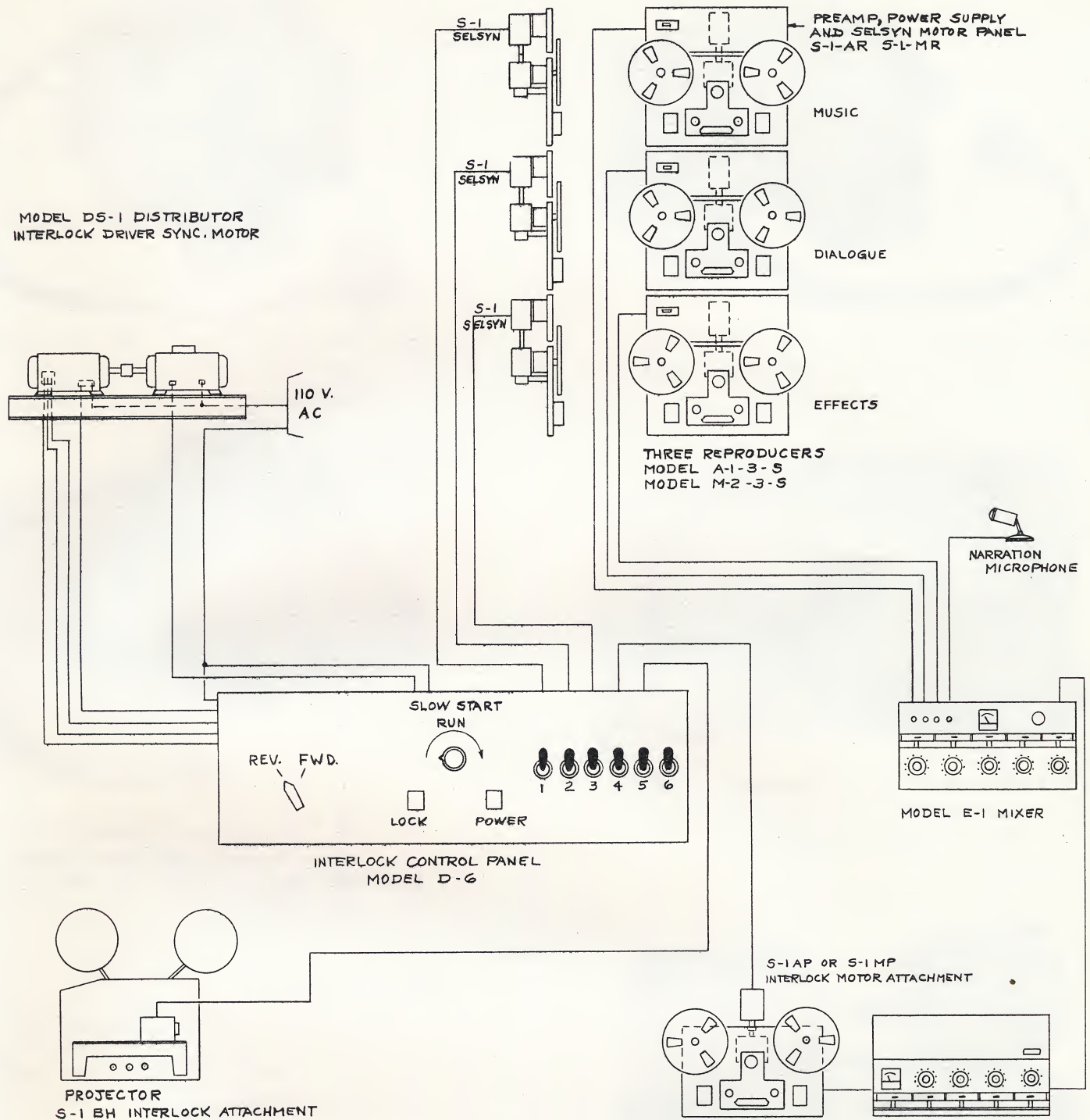
- 1, REMOTE CONTROL FOR ALL UNITS, FORWARD OR REVERSE.
- 2, TWO OR MORE UNITS CAN BE LOCKED FOR "SYNC-SELSYN" OR INDIVIDUAL UNITS CAN RUN "SYNC" ONLY.
- 3, ALL "AMEGA" RECORDERS AND DUMMIES ARE EQUIPPED WITH REMOTE PLUGS FOR MOTORS.
- 4, INTERCONNECTING WIRING IS ACCOMPLISHED WITH CABLES COMPLETE WITH PLUGS. CABLES ARE SUPPLIED IN 10 FT. LENGTHS.
- 5, CONTROL PANEL HAS RECEPTACLES FOR SIX SELSYN INPUTS AND SIX SYNC-MOTOR INPUTS.





# DISTRIBUTOR INTERLOCK SYSTEM

MODEL DS-1 DISTRIBUTOR  
INTERLOCK DRIVER SYNC. MOTOR



## "DISTRIBUTOR INTERLOCK"

STUDIO LAYOUT FOR RECORDING,  
DUBBING AND RE-RECORDING

EQUIPMENT SHOWN —

M-2-3-S THREE POSITION DUBBER WITH  
THREE INTERLOCK MOTOR ATTACHMENTS.  
D-6 DISTRIBUTOR CONTROL PANEL.  
M-2 RECORDER (PORTABLE OR RACK MOUNT).  
E-1 MIXER (FOR PORTABLE OR STUDIO).  
S-1 BH INTERLOCK ATTACHMENT FOR PROJECTOR.  
1 (ONE) COMPLETE SET OF INTERCONNECTING CABLES  
SUPPLIED BY "AMEGA" FOR ABOVE SYSTEM.

## NOTE:

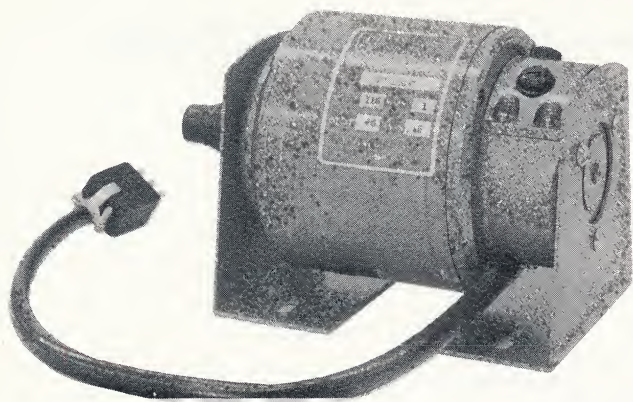
- 1, - CONTROL HAS ROTARY TRANSFORMER FOR SLOW START OF ALL UNITS
- 2, ANY UNIT CAN BE REMOVED FROM THE LINE WITHOUT DISTURBING THE OTHER UNITS IN OPERATION
- 3, UNITS OPERATE "SYNC." FOR NORMAL OPERATION
- 4, INTERCONNECTING WIRING ACCOMPLISHED WITH CABLES COMPLETE WITH PLUGS. CABLES ARE SUPPLIED IN 10 FT LENGTHS
- 5, CONTROL PANEL HAS RECEPTACLES FOR SIX INTERLOCK MOTORS



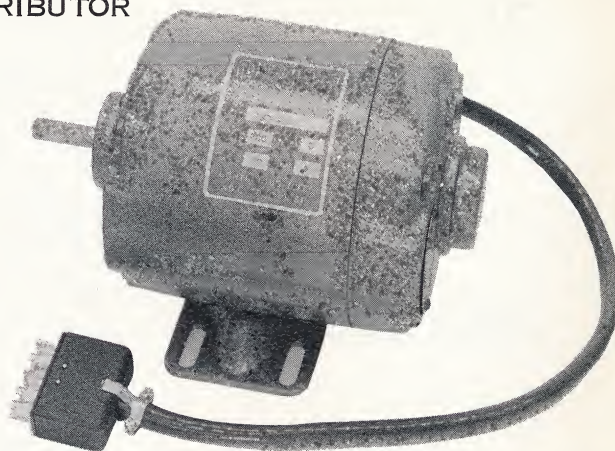


# INTERLOCK ACCESSORIES

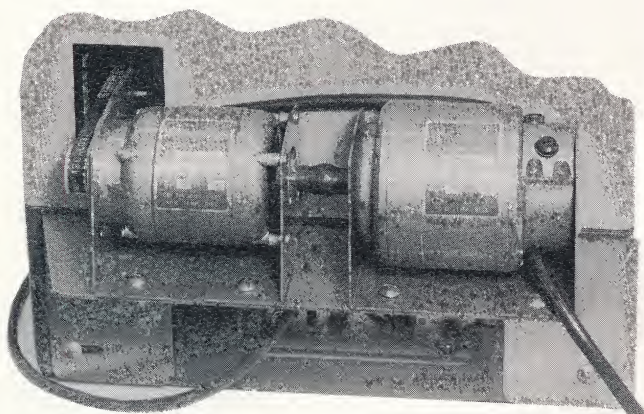
SYNC—SELSYN AND DISTRIBUTOR



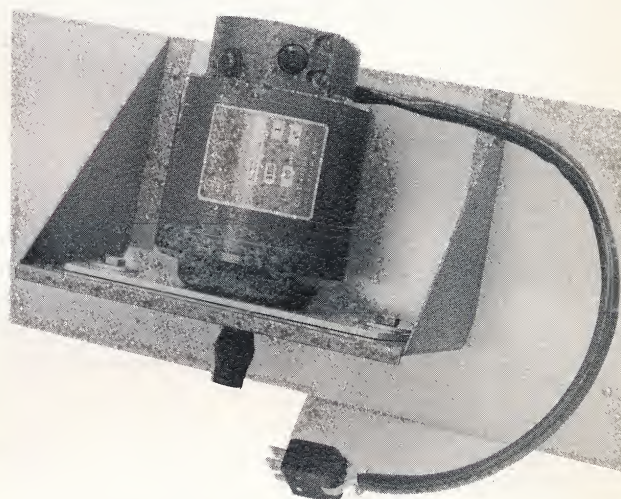
S-1 INTERLOCK MOTOR, 110 VOLT SINGLE PHASE EXCITATION, 110 VOLT THREE PHASE SECONDARY.



S-3 INTERLOCK MOTOR, 220 VOLT 3 PHASE EXCITATION, 220 VOLT 3 PHASE SECONDARY.

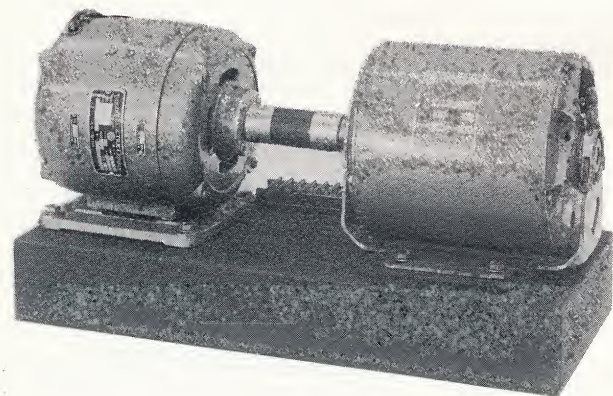


S-1 BH INTERLOCK ATTACHMENT FOR BELL AND HOWELL PROJECTOR WITH SYNC MOTOR "SYNC INTERLOCK".



S-1 AR INTERLOCK ATTACHMENT FOR RACK MOUNT DUBBERS AND RECORDERS.

S-1 MR SAME AS ABOVE FOR M-2 DUBBER AND RECORDERS.



S-S-1 DISTRIBUTOR

HAS 110 VOLT 50 OR 60 CYCLE INPUT, SYNCHRONOUS DRIVE MOTOR AND "INTERLOCK DRIVER". FOR USE WITH D-6 CONTROL PANEL.

D-S-3 SAME AS ABOVE FOR 3 PHASE INPUT 50 OR 60 CYCLE.

MADE IN U. S. A.



AMEGA

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AMEGA

MANUFACTURERS OF MOTION PICTURE SOUND DEVICES  
11817 WICKS STREET / SUN VALLEY, CALIF.

RO 7-0250

July 1, 1964

### PROFESSIONAL USERS PRICE LIST

All units are supplied for ISO-SMPTE standard edge track. Center track available on special order at same price. Reproducers can be ordered with both edge and center track heads for \$95.00 additional each transport.

#### MODEL A-1 STANDARD RECORDER/REPRODUCER SYSTEM 16 MM ONLY

A-1 Recorder Portable	\$1295.00	Portable complete with mechanical unit and amplifier in one case. Sync motor and two torque motors.
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A-1R Rack Mount Recorder	\$1250.00	Same as above for rack mount.
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#### MODEL A-2 STANDARD RECORDER/REPRODUCER

A-2 Recorder Portable	\$1350.00	Portable in two cases. Identical to Model A-1 Recorder.
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#### MODEL A-1 REPRODUCER DUMMY FOR RACK MOUNT

A-1-1 Edge or Center Track	\$ 995.00	Sync motor and two torque motors. Plug-in preamplifier and power supply.
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#### TWO REPRODUCERS MECHANICALLY INTERLOCKED MOUNTED IN RACK CABINET

A-1-2 Edge or Center Track	\$2240.00	Same as above with two plug-in amplifiers and power supplies
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#### TWO REPRODUCERS ELECTRICALLY INTERLOCKED MOUNTED IN RACK CABINET

A-1-2-S Same as above with Electrical interlock	\$2590.00	Each reproducer has one S-1A interlock motor. Units will run "syn" or "sync-selsyn" interlocked with other equipment.
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#### THREE REPRODUCERS MECHANICALLY INTERLOCKED MOUNTED IN RACK CABINET

A-1-3 Edge or Center Track	\$3310.00	Same as above with three Plug-in amplifiers and power supplies.
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#### THREE REPRODUCERS ELECTRICALLY INTERLOCKED MOUNTED IN RACK CABINET

A-1-3-S Same as above with electrical interlock	\$3835.00	Each reproducer has one S-1A interlock motor. Units will run "sync" or "sync-selsyn" and interlocked with other equipment.
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April 1, 1964

MODEL M-2 HEAVY DUTY RECORDER REPRODUCING SYSTEM 16MM - 17 $\frac{1}{2}$  MM - 35 MM

M-2 16 MM Portable Recorder	\$1795.00	Two microphone channels. Play
M-2 17 $\frac{1}{2}$ MM Portable Recorder	\$1895.00	back amplifier and speaker.
M-2 35 MM Portable Recorder	\$1995.00	Sync motor and two torque motors.

.....

RACK MOUNT RECORDERS

M-2 16 MM Rack Mount	\$1695.00	Same as above for rack mount.
M-2 17 $\frac{1}{2}$ MM Rack Mount	\$1795.00	
M-2 35 MM Rack Mount	\$1895.00	

.....

MODEL M-2 REPRODUCER FOR RACK MOUNT

M-2-1 16 MM Reproducer	\$1295.00	Complete with play back pre-
M-2-1 17 $\frac{1}{2}$ MM Reproducer	\$1395.00	amplifier and power supply.
M-2-1 35 MM Reproducer	\$1495.00	Sync motor and two torque

.....

TWO REPRODUCERS MECHANICALLY INTERLOCKED MOUNTED IN RACK CABINET

M-2-2 16 MM Reproducer	\$2795.00	Units same as above are
M-2-2 17 $\frac{1}{2}$ MM Reproducer	\$2895.00	mechanically interlocked and
M-2-2 35 MM Reproducer	\$3195.00	mounted in 77" rack cabinet.

.....

TWO REPRODUCERS WITH INTERLOCK MOTORS MOUNTED IN RACK CABINET

M-2-2-S 16 MM Reproducer	\$3295.00	Same as above with electrical
M-2-2-S 17 $\frac{1}{2}$ MM Reproducer	\$3395.00	interlock. Each reproducer
M-2-2-S 35 MM Reproducer	\$3695.00	has one S-1M interlock motor

assembly. Units will operate "sync" or "sync-selsyn" with other equipment. Mounted in 77" rack cabinet.

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THREE REPRODUCERS MECHANICALLY INTERLOCKED MOUNTED IN RACK CABINET

M-2-3 16 MM Reproducer	\$4195.00	Same as above units are
M-2-3 17 $\frac{1}{2}$ MM Reproducer	\$4395.00	mechanically interlocked
M-2-3 35 MM Reproducer	\$4695.00	Mounted in 77" rack cabinet.

.....

THREE REPRODUCERS WITH INTERLOCK MOTORS MOUNTED IN RACK CABINET

M-2-3-S 16 MM Reproducer	\$4695.00	Same as above with electrical
M-2-3-S 17 $\frac{1}{2}$ MM Reproducer	\$4995.00	interlock. Each reproducer has
M-2-3-S 35 MM Reproducer	\$5295.00	one S-1M interlock motor

assembly. Units will operate "sync" or "sync-selsyn" with other equipment. Mounted in 77" rack cabinet.

.....



## INTERLOCK ACCESSORIES

All Amega interlock motors and sync-selsyn attachments can be controlled either by a distributor system or a sync-selsyn control panel. The distributor system provides a "slow start" and "coast down". The sync-selsyn system is an instant start since all synchronous motors are energized simultaneously. Slow start and sync-selsyn are possible provided all synchronous motors are wired and terminate to a variac (rotary transformer). This modification can be provided with a factory order for dubbers, recorders and projector attachments.

## C-2 Sync-selsyn Control Panel

Unit has controls for recorder and projector. Receptacles are provided for inputs from the recorder synchronous motor, projector synchronous motor and two interlock motors. One control switch starts both units simultaneously. Panel measures  $5\frac{1}{4}$  x 12" housed in a metal container.

\$125.00

## C-6 Sync-selsyn Control Panel

Same as above but has 6 input receptacles and 6 control switches. Interlock can be accomplished between any two or more of the 6 inputs.

\$199.00

## C-6-ST Slow Start Sync-selsyn Control Panel

Same as above except includes rotary transformer and input receptacles for 6 synchronous motors. Units can be controlled for "slow start" and "coast down".

\$299.00

## D-6 Distributor Control Panel

Controls are provided for the operation of 6 units which may include recorder, dubber or projector. Rotary transformer for slow start of distributor drive motor. Separate controls and receptacles for 6 inputs.

\$299.00

## D-6-3 Distributor Control Panel

Same as above except for use with 3 phase distributor and interlock motors.

\$499.00

## DS-1 Distributor

For use with D-6 control panel. Has 110 volt 50 or 60 cycle input. Unit consists of synchronous drive motor and distributor interlock motor.

\$499.00

## DS-3 Distributor

For use with D-6-3 control panel. Has 220 volt, 3 phase input. Unit consists of synchronous drive motor and distributor interlock motor.

\$799.00



## INTERLOCK MOTORS AND ATTACHMENTS, 110 VOLT AND 220 VOLT

S-1	Interlock motor 110 volt single phase excitation. 110 volt 3 phase secondary. For use with 16 MM projector and other equipment. Motor can be driven 900, 1200, 1440, 1500, 1800 R.P.M.	\$199.00
S-1-A	Interlock motor attachment for A-1 Rerecorder (dummy). Complete with one S-1 motor	\$250.00
S-1-M	Interlock motor attachment for M-2 Rerecorder (dummy). Complete with one S-1 motor	\$250.00
S-1 AP	Interlock motor attachment for portable A-1 and A-2 recorder. Complete with one S-1 motor	\$250.00
S-1 MP	Interlock motor attachment for portable M-2 recorder. Complete with one S-1 motor	\$250.00
S-1 BH	Interlock attachment for Bell and Howell projector	\$299.00
S-1 BHS	Interlock attachment for Bell and Howell specialist 542 and AV 535 projectors (factory installation)	\$450.00
S-1 DV	Interlock attachment for DeVry projectors	\$350.00
S-1 GG	Interlock attachment for Graflex Galaxy projector	\$299.00
S-1 AMP	Interlock attachment for Ampro projector	\$350.00
S-1 K	Interlock attachment for Kodak Pageant projector	\$299.00

Write for prices on other projectors.

S-3	Interlock motor 220 volt, 3 phase, excitation and secondary 50/60 cycles	\$299.00
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When 3 phase interlock motors are required for above attachments add \$100.00.

Sync-interlock projector attachments - add \$150.00 to above prices.  
Ordering code "Sync-Interlock".

## EQUALIZERS

J-1	Low and high frequency boost and attenuation. 10 positions for each section.	\$229.00
J-3	Equalizer has 3 sections on 5 $\frac{1}{4}$ x 19" panel. Same as above	\$495.00

## REELS

R-6	Split apart reel 600 ft. 16 MM. Aluminum with steel hub	\$9.95
R-12	Split apart reel 1200 ft. 16 MM. Aluminum with steel hub	\$12.95
R-35	Same as above for 35MM	\$14.95
RH-16	Aluminum hub 4 $\frac{1}{2}$ dia. 16 MM	\$1.95
RH-35	Aluminum hub 4 $\frac{1}{2}$ dia. 35 MM	\$3.95

## MIXERS

E-1	4 Channel Mixer for portable or studio use. 4 microphone channels inputs and 4 bridge inputs. Dialogue equalization for each channel. Indicator lights for dialogue position. Talk back microphone. Dubbers and microphones can be mixed simultaneously. Output 600 ohms zero level.	\$595.00
E-2	6 Channel Mixer for studio. Same as above for use on desk or table.	\$795.00
E-3	6 Channel Mixer for studio with patch bay, patch cords and monitor amplifier.	\$995.00

PROFESSIONAL MICROPHONES AVAILABLE ON SPECIAL ORDER



April 1, 1964

REPLACEMENT HEADS 16 MM FOR MODELS A-1 AND M-2

H-R-16-E	Record head 200 Mill for 16 MM	\$49.50
Edge Track	One Screw Mount complete with plug	
H-R-16-C		
Center Track		
.....		
H-P-16-E	Play head 200 Mill for 16 MM	\$49.50
Edge Track	One screw mount complete with plug	
H-P-16-C		
Center Track		

INTERCHANGEABLE HEAD ASSEMBLY FOR MODEL A-1 RECORDER

H-A-E	Record and play heads mounted on	\$120.00
Edge Track	plate ready for plug in	
H-A-C		
Center Track		

INTERCHANGEABLE HEAD ASSEMBLY FOR MODEL M-2 RECORDER

H-M-E	Record and play heads mounted on	\$126.00
Edge Track	plate ready for plug in	
H-M-C		
Center Track		

HEAD MOUNTING PLATES

H-MPA Model A-1	Interchangeable head mounting plate and head adjusting plates complete with mounting screws and springs	\$20.00
H-MPM Model M-2	Head mounting plate same as above	\$26.00

REPLACEMENT HEADS 35 MM FOR MODEL M-2

H-R-35	Record head single track 200 mill	\$ 95.00
H-P-35	Play head single track 200 mill	\$ 95.00
H-R-35-3	Record head three 200 mill tracks	\$250.00
H-P-35-3	Play head three 200 mill tracks	\$250.00

REPLACEMENT HEADS 17 $\frac{1}{2}$  MM FOR MODEL M-2

H-R-17	Record head 200 Mill track	\$49.50
H-P-17	Play head 200 Mill track	\$49.50

RELEASE PRINT HEADS 16 MM for A-1 and M-2

H-RR	Record head 100 mill track	\$95.00
H-PR	Play head 100 mill track	\$95.00

INTERCHANGEABLE RELEASE PRINT HEAD ASSEMBLY

H-A-R	For A-1 Recorder record and play heads complete with mounting plate and plugs	\$210.00
H-M-R	For M-2 Recorder same as above	\$216.00



April 1, 1964

# AMPLIFIER MODULES

RC-1	Record amplifier	\$ 85.00
PL-1	Playback amplifier, head to 0 VU, 600 ohms	\$ 97.00
MP-1	Microphone preamplifier	\$ 97.00
LN-1	Line amplifier, approx. -20 dbm to 0 VU, 600 ohms	\$ 85.00
BO-1	Bias oscillator	\$ 80.00
PA-1	Power amplifier module only, 2 watt push-pull	\$ 80.00
PAS-1	Power amplifier with speaker in portable case Self powered, 115 V AC or 24 V battery. Two watt push-pull low distortion output.	\$197.00

## NOTE:

All plug-in modules are interchangeable between all AMEGA recorders, mixers and dubbers.

The microphone preamp and the playback amplifier are identical and may be used interchangeable. The necessary equalization is accomplished at the mating connector in the equipment. The only difference is the handle, engraved PLAY or MIC.